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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,791	10/01/2003	Gerd Zimmermann	4114-8	3670

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EXAMINER	
CAI, WAYNE HUU	
ART UNIT	**PAPER NUMBER**
2617	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/674,791	ZIMMERMANN ET AL.	
	Examiner	Art Unit	
	Wayne Cai	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed July 07, 2006 have been fully considered but they are not persuasive.

In response to rejections under 35 U.S.C. § 112, first paragraph, the Applicants state that the Examiner has to interpret "continuously" in context with the term "quasi-continuously". However, the Applicants' own disclosure never teaches or suggests "a continuous monitoring includes only a single measurement interval that (in contrast to a quasi-continuous monitoring) is not intercepted by any time intervals in which no monitoring occurs."

In response to the expression "radar-like interference signals" arguments set forth on page 8 of Remarks, the phrase "radar-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "radar-like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). Therefore, the Examiner upholds the rejections under 35 U.S.C. § 112, first paragraph.

The Applicants argue at the last paragraph of page 8 that Kobayashi does not relate to *frequency selection* at all. The Examiner respectfully disagrees with the statement because as cited previously, paragraphs 0188-0189 teaches or suggests that the IS generating circuit 17 outputs an IS signal at a timing when it is determined by the packet detection circuit 14 that the communication channel is not being used and no

interference wave signal is detected by the interference wave detection circuit 15. In turn, a communication channel is assigned (i.e., to select a frequency in dependence on the allocated quality parameters) to transmit from terminals to the base stations.

Furthermore, even though Kobayashi teaches or suggests monitoring and assessing one frequency with respect to a radar-indicative characteristic of the radar-like interference signals and other claimed limitations as well. However, Kobayashi does not specifically teach whether the monitoring is continuously monitoring or quasi-continuously monitoring. Therefore, the Examiner relies on the teachings of Meredith, where the disclosure teaches or suggests continuous interference monitoring and assessment (see title and abstract of Meredith). Hence, it would be proper to combine the references to arrive at the present invention.

Lastly, since the Applicants recite an alternative options of monitoring (i.e., continuously or quasi-continuously). Therefore, it is respectfully noted that even though the cited references **do not teach quasi-continuously** monitoring and assessing frequencies with respect to a radar-indicative characteristic of the radar-like interference signal. However, for the purpose of claim interpretation, the cited references still read on the claim limitations because only the method of continuously monitoring and assessing frequencies is read into the claim.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 17, and 19 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The monitoring of the frequencies is performed *continuously* or *quasi-continuously* to enable a quicker and more reliable detection of radar-like interference signals is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The Applicants recite in all independent claims 1, 17, and 19 that the method claimed requires "continuously ***or*** quasi-continuously monitoring and assessing one or more frequencies". The Applicant further defines "quasi-continuously monitoring the one or more frequencies a duration of a single measurement internal is long compared to a time interval between two subsequent measurement intervals." However, neither in the specification nor the claim itself really defines or describes "continuously monitoring". In addition, the Applicants define "radar-like signals" which with a high probability to go back to a radar system (see specification, page 4, lines 8-9). The Applicants, however, do not describe "radar-like interference signals" in the specification, but the Examiner notes that the "radar-like interference signals" is being claimed. Hence, the Examiner respectfully requests in response to the current Office action, the Applicants need point out where in the specification supports or describes what "radar-like interference signals" is.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3-5, 9-15, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (hereinafter "Kobayashi", US 2001/0039183 A1) in view of Meredith et al. (hereinafter "Meredith", US 6,052,605).

Regarding claims 1, 17, and 19, Kobayashi discloses a method, a system, and a computer program product of controlling frequency selection in a wireless communication system in response to radar-like interference signals, comprising:

a) monitoring and assessing one or more frequencies with respect to a radar-indicative characteristic of the radar-like interference signals (paragraphs 0183-0184; paragraph 0208);

b) allocating a quality parameter to each assessed frequency, the quality parameter indicating a probability that the frequency is occupied by a radar-like interference signal (paragraph 0187);

c) selecting one or more frequencies in dependence on the allocated quality parameters (paragraphs 0188-0189);

d) further monitoring one or more frequencies with respect to radar-like interference signals (paragraph 0193).

However, Kobayashi does not specifically discloses continuously or quasi-continuously monitoring and assessing one or more frequencies.

In a similar endeavor, Meredith discloses a continuous interference assessment and avoidance in a land mobile radio system. Meredith also discloses continuously monitoring and assessing one or more frequencies (col. 8, lines 20-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kobayashi's method with a continuously monitoring in order to avoid a potential interference at the operating frequency.

Since the Applicant recites an alternative option of monitoring (i.e., continuously ***or*** quasi-continuously). The Examiner would have to give a broadest reasonable interpretation of the recited claim (i.e., the method and the system claim could apply a continuous monitoring ***or*** quasi-continuous monitoring). Even though Meredith only discloses a method of continuously monitoring and assessing the potential interference signals, the disclosure would read on the claimed limitation since it does not require quasi-continuously monitoring the one or more frequencies a duration of a single measurement internal is long compared to a time internal between two subsequent measurement intervals.

Regarding claim 3, Kobayashi, and Meredith disclose a method of claim 1 as described above. Kobayashi also discloses wherein the quality parameter can assume any value between a lower quality border value and an upper quality border value (paragraph 0187).

Regarding claim 4, Kobayashi, and Meredith disclose the method according to claim 1 as described above. Kobayashi also discloses wherein in step c) only those frequencies are selected to which quality parameters satisfying a threshold condition are allocated (paragraphs 0188-0189).

Regarding claim 5, Kobayashi, and Meredith disclose the method according to claim 1 as described above. Kobayashi also discloses wherein at least step a) is performed during a normal transmission mode (paragraph 0184).

Regarding claim 9, Kobayashi, and Meredith disclose the method according to claim 1 as described above. Kobayashi also discloses wherein, if at least one of the radar-like interference signals and other interference signals are detected in step d), steps a) to c) are repeated (paragraph 0187).

Regarding claim 10, Kobayashi, and Meredith disclose the method according to claim 1 as described above. Meredith further discloses a continuous interference assessment and avoidance in a land mobile radio system. Meredith also discloses wherein during regular operation receive/transmit pauses are artificially created (col. 2, lines 28-40).

Regarding claims 11, and 12, Kobayashi, and Meredith disclose the method according to claim 1 as described above. Meredith further discloses a continuous interference assessment and avoidance in a land mobile radio system. Meredith also discloses periodically monitoring one or more of the selected frequencies to assess an average quality thereof (col. 2, lines 41-46). Even though, Meredith does not specifically disclose transmitting on the one or more frequencies having the highest

average quality. It is however, obvious to one skilled in the art to transmit the highest average quality since the average quality has been obtained by monitoring, and calculated.

Regarding claim 13, Kobayashi and Meredith disclose the method of claim 12 as described above. Meredith also discloses wherein after a predefined period of time the method returns to step a) (col. 2, lines 41-45).

Regarding claim 14, Kobayashi and Meredith disclose the method of claim 13 as described above. It is also obvious to one skilled in the art that for a specific transmission frequency the predefined period of time is selected in dependence on the quality parameter previously allocated to this transmission frequency (i.e., when there is no potential interference detected, then the selected frequency would still be able to use in the channel).

Regarding claim 15, Kobayashi and Meredith disclose the method of claim 13 as described above. It is also obvious to one skilled in the art that the predefined period of time is selected additionally in dependence the transmission quality of the currently used transmission frequency (i.e., when there is no potential interference detected, then the selected frequency would still be able to use in the channel).

Regarding claim 18, Kobayashi discloses the computer program product of claim 17 as described above. Meredith also discloses a continuous interference assessment and avoidance in a land mobile radio system. Meredith also discloses stored on a computer readable recording medium (col. 2, lines 41-46).

6. Claims 2, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Meredith, and further in view of Wallstedt et al. (hereinafter "Wallstedt", US – 6,466,793 B1).

Regarding claim 2, Kobayashi, and Meredith disclose the method according to claim 1 as described above, except for the quality parameter can assume one of a plurality of pre-defined values, a first value indicating that a frequency is occupied, a second value indicating that a frequency is not occupied, and a third value indicating that a frequency might be occupied.

In a similar endeavor, Wallstedt discloses an automatic frequency allocation (AFA) for wireless office systems sharing the spectrum with public systems. Wallstedt also discloses the quality parameter can assume one of a plurality of pre-defined values, a first value indicating that a frequency is occupied, a second value indicating that a frequency is not occupied (col. 1, line 59 – col. 2, line 2), and except for a third value indicating that a frequency might be occupied.

However, it is obvious to one skill in the art to arrive at the invention with the third value indicating that a frequency might be occupied since it is obvious to include different quality parameters in controlling the frequency selections in wireless communications so that the systems could determine when to switch to the other frequency bands.

Regarding claim 16, Kobayashi, and Meredith disclose the method according to claim 1 as described above, except for disclosing wherein prior to switching from a first

transmission frequency to a second transmission frequency, the second transmission frequency is subjected to at least steps a) and b).

In a similar endeavor, Wallstedt discloses an automatic frequency allocation (AFA) for wireless office systems sharing the spectrum with public systems. Wallstedt also discloses wherein prior to switching from a first transmission frequency to a second transmission frequency, the second transmission frequency is subjected to at least steps a) and b) (col. 5, line 45 – col. 6, line 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of monitoring and allocating quality parameters so that it switches the transmission frequency only when required.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Meredith, and further in view of Wiese et al. (hereinafter "Wiese") (US – 6,404,830 B2).

Regarding claim 6, Kobayashi discloses the method according to claim 1 as described above, except for disclosing wherein at least step a) is performed prior to a normal transmission mode.

In a similar endeavor, Wiese discloses a digital radio frequency interference canceller. Wiese also discloses wherein at least step a) is performed prior to a normal transmission mode (fig. 11, element 1102, and its descriptions).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of monitoring prior to a normal transmission mode so that the interference signals could be prevented in advance.

8. Claims 7-8, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Meredith, and further in view of Gray (US 2002/0160769 A1).

Regarding claim 7, Kobayashi, and Meredith disclose the method according to claim 1 as described above, except for disclosing wherein at least step a) is performed by a separate monitoring device in communication with at least one of an access point and a central controller (CC) of the wireless communication system.

In a similar endeavor, Gray discloses an apparatus and associated method for reporting a measurement summary in a radio communication system. Gray also discloses wherein at least step a) is performed by a separate monitoring device (MD) in communication with at least one of an access point (AP) and a central controller (CC) of the wireless communication system (fig. 1, elements 14, 18, and 46 and its descriptions).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the monitoring device, access point, and central controller to communicate with each other in detecting the interference signals.

Regarding claim 8, Kobayashi, and Meredith disclose the method according to claim 1 as described above, except for comprising communicating the allocated quality

parameters to an access point or a central controller of the same or a neighboring wireless communication system.

In a similar endeavor, Gray discloses an apparatus and associated method for reporting a measurement summary in a radio communication system. Gray also discloses comprising communicating the allocated quality parameters to an access point or a central controller of the same or a neighboring wireless communication system (paragraphs 0044-0046).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of communicating the allocated quality parameters to an access point so that the frequency range could be selected.

Regarding claim 20, Kobayashi, and Meredith disclose the wireless communication system of claim 19 as described above, except for disclosing a monitoring device (MD) associated with or remote from at least one of an access point (AP) or a central controller (CC), wherein the monitoring device (MD) includes at least the first unit for continuously or quasi-continuously monitoring and assessing one or more frequencies with respect to the radar-like interference signals.

In a similar endeavor, Gray discloses an apparatus and associated method for reporting a measurement summary in a radio communication system. Gray also discloses a monitoring device (MD) associated with or remote from at least one of an access point (AP) or a central controller (CC), wherein the monitoring device (MD) includes at least the first unit for continuously or quasi-continuously monitoring and

assessing one or more frequencies with respect to the radar-like interference signals (paragraphs 0043-0046; fig. 1 and its descriptions).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a monitoring device, access point, central controller to monitor, and report the radar-like interference signals.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Cai whose telephone number is (571) 272-7798. The examiner can normally be reached on Monday-Friday; 9:00-6:00; alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wayne Cai
Examiner
Art Unit 2617

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PRIMARY EXAMINER